

REMARKS

The specification was objected to because the paragraph added by Preliminary Amendment was allegedly inconsistent with the preferred embodiment of the invention. To address this objection, Applicants herein amend the specification to particularly recite the known techniques of sulfonating a polyester, and to more particularly recite that Dispercoll U53 and U54 are sulfonated polyester polyurethanes.

Applicants submit that no new matter is added herewith because the techniques of sulfonation are well known in the art. Furthermore, the specification as originally filed recites that any aqueous polyester polyurethane dispersion may be used in the composition of the invention, and includes sulfonated polyester polyurethanes such as Dispercoll U53 and U54. Thus, Applicants submit that the amendments to the specification serve to clarify that which was originally disclosed and no new matter is added.

Claims 1-25 remain in the application for consideration. Claims 1, 2, 3, 11, 14, 21, and 22 are herein amended.

Rejections under 25 USC §112

Claims 1-25 were rejected under 35 USC §112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to make and/or use the invention. Claims 1-25 were also rejected under 35 USC §112, second paragraph, for allegedly failing to particularly point out and distinctly claim the subject matter of the invention. Applicants respectfully traverse the rejection.

To address the rejections, Applicants herein amend the specification and claims to clarify that the Dispercoll U53 and U54 are aqueous sulfonated polyester polyurethane dispersions. Applicants submit that these amendments do not include new matter for several reasons. First, Applicants submit that in the application as originally filed, an "aqueous polyester polyurethane dispersion" was recited. Applicants submit that this language includes sulfonated polyester polyurethane dispersions, such as now presently disclosed and claimed. Moreover, in the application as originally filed, Applicants particularly pointed out that Dispercoll U53 and Dispercoll U54 were preferred aqueous polyester polyurethane dispersions, and

that these dispersions are inherently sulfonated. For these reasons, Applicants submit that the amendments made herewith serve to clarify that which has already been disclosed and thus do not encompass new matter.

Rejections under 35 USC §102

Claims 1-6 and 9-11 were rejected as being anticipated by U.S. Patent No. 6,180,244 to Rayner et al. Applicants respectfully traverse the rejection.

Rayner et al. disclose a water-based adhesive, essentially plasticizer-free, comprising a combination of (a) 15-85% by weight, most preferably 35-57% by weight, sulfonated polyester urethane dispersion; (b) 15-55% by weight, most preferably 25-37% by weight, acrylate-vinyl dispersion; (c) 0-50% by weight, most preferably 6-17% by weight, non-sulfonated urethane dispersion; (d) optionally 0-55% by weight, preferably 7-15% by weight, non-acrylate vinyl dispersion; (e) optionally, 0-10% solvent by weight of the total formulation, preferably 0-5% by weight; (f) 0-1% by weight, preferably 0.15-0.25% by weight, rheology modifier capable of producing textured patterns while maintaining a uniform dispersion of the aforementioned materials; and (g) 0-7% by weight of the total formulation crosslinking agent. Additives may also be added, such as

pigments, defoamers, antioxidants, coalescing agents, UV absorbers and the like.

In contrast, claim 1 recites a water-based adhesive composition, comprising an admixture of: (a) about 5 to about 80 wt% of an aqueous sulfonated polyester polyurethane dispersion, that is the reaction product of (1) the condensation product of 1,4-butanediol or 1,2-ethanediol and sulfonic acid, and (2) a diisocyanate compound selected from the group consisting of hexamethylene diisocyanate, isophorone diisocyanate, and combinations thereof; and (b) about 95 to about 20 wt% of an aqueous aliphatic polyurethane dispersion.

Applicants submit that Rayner et al. does not disclose an aqueous sulfonated polyester polyurethane dispersion that is the reaction product of (1) the condensation product of 1,4-butanediol or 1,2-ethanediol and sulfonic acid, and (2) a diisocyanate compound selected from the group consisting of hexamethylene diisocyanate, isophorone diisocyanate, and combinations thereof, as particularly recited in claim 1. Applicants submit that the composition disclosed by Rayner includes, at a minimum, a sulfonated polyester urethane dispersion and an acrylate-vinyl dispersion, and that such urethane polymers are not recited in the present claims. Therefore, Applicants submit that presently claimed invention is

not anticipated by Rayner et al., and that this rejection is overcome.

Rejections under 35 U.S.C. §103

Claims 1-25 were rejected under 35 U.S.C. §103 as being allegedly unpatentable over U.S. Patent No. 6,180,244 to Rayner et al. in view of U.S. Patent No. 5,877,240 to Piret et al. Applicants respectfully traverse the rejection.

Rayner is discussed above. U.S. Patent No. 5,877,240 to Piret et al. discloses an epoxy and polyurethane-based sizing composition for fibers used in the reinforcement of engineered thermoplastic molded composites. The sizing composition of the invention comprises (a) a first film-forming polymeric composition comprising a thermoplastic polyurethane; (b) a second film-forming composition comprising an epoxy-cresol-novolac resin and bisphenol F; (c) one or more silane coupling agents; and (d) water. The silane coupling agents include gamma-glycidoxypropyltrimethoxy silane and gamma-aminopropyltriethoxy silane.

Applicants submit that any combination of the Rayner et al. and Piret et al. references, taken as a whole, does not make the present invention obvious. According to the Examiner, a combination of the Rayner et al. and Piret et al. references

would produce a product that is a water-based adhesive comprising a combination of (a) a sulfonated polyester urethane dispersion; (b) an acrylate-vinyl dispersion; and (c) one or more silane coupling agents, such as gamma-glycidoxypyrpyltrimethoxy silane and gamma-aminopropyltriethoxy silane. However, such a combination still does not make the present invention obvious because such a combination does not provide any teaching or suggestion of an aqueous sulfonated polyester polyurethane dispersion that is the reaction product of (1) the condensation product of 1,4-butanediol or 1,2-ethanediol and sulfonic acid, and (2) a diisocyanate compound selected from the group consisting of hexamethylene diisocyanate, isophorone diisocyanate, and combinations thereof. Applicants therefore submit that this limitation renders the claimed subject matter unobvious over the prior art references of Rayner et al. and Piret et al., taken individually or in combination.

Applicants now submit that the claims are in condition for allowance, and a notice of allowance is respectfully solicited.

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If the Examiner has further questions, he is cordially invited to contact Applicants' representative at the telephone number below.

Respectfully submitted,

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